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EXCHANGE RATES AND NATIONAL INCOME[1]

In the first paper certain difficulties were analysed which arise from the breakdown of partial equilibrium analysis and from the oligopolistic nature of the relationships. We have seen that the ' elasticities ' depend (1) upon each other (2) upon price reactions in oligopolistic markets, (3) upon employment levels, (4) upon the amount and the direction of price changes, (5) upon reactions in other trading countries.

We shall in the following discuss more fully (1) the effects of employment and income variations both in the short and long run ; (2) the effects of changes in the distribution of income.

(1) INCOME EFFECTS

An alteration in the exchange rate will affect income and employment in three ways of which only the first is usually analysed.

(*a*) There are income effects which arise from the change in the *volume of exports* and the *balance of trade.* These are supposed to be brought about by the interplay of the ' elasticities ' and have been fully analysed, notably by Mrs. Joan Robinson. They need not detain us further.

(*b*) There are effects which arise from changes in the *distribution* of income within the country. They are usually entirely neglected.

(*c*) There are finally changes in the *real income* of the country which result from changes in the *terms of trade.*

Now all these effects will alter saving, consumption and investment and hence the demand for imports and the supply of exports. Thus a deterioration in the terms of trade and the consequent reduction in real income is likely to reduce the demand for imports (although we have seen that it may give rise to inflationary movements in money wages which would have the opposite effect). It will also tend to reduce savings (which also has an inflationary effect). The concomitant shift to profits, however, is likely to raise savings and hence to reduce the demand for imports. The increased competitiveness of domestic business with foreign industry will provide new investment opportunities, etc., and, by raising incomes, raise demand for imports.

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[1] Second part of the article on 'The inappropriateness of simple elasticity concepts in international economic analysis.'

(2) Short Run Changes in Income

We shall consider the short-run effects on effective demand and monetary stability in this and the long-run effects on the growth of capital and income in a subsequent section. We shall discuss the question how these changes affect the concept of ' price elasticities ' and of ' equilibrium rates of exchange '. The first concept is relevant to value theory, the second to welfare economics.

An alteration in the exchange rate is likely to alter the level of effective demand for the reasons given above. The customary treatment of initial price effects, to be measured by price 'elasticities,' and consequential income effects, to be measured by income 'elasticities' and 'propensities,' is not satisfactory. Although the multiplier effects of changes in the balance of payments might conceivably be treated as ' secondary ', the effects on income of changes in the terms of trade and of distribution are simultaneous and *analytically inseparable* from the price changes. Exchange rate alterations are *ipso facto* income alterations. Moreover, if these income changes give rise to cumulative movements, the final reactions to price changes will be irreversible, for cumulative movements are not symmetrical for upward and downward changes.

A further asymmetry is introduced into the picture by the lack of perfect mobility of labour and the lags due to the time taken to adjust the capital structure of the country. The short-run effects of changes on investment depend on the direction and extent of the change. A reduction in net investment is perhaps most easily carried out. Even here strong complementarities might impede adjustments. An increase in net investment, though perhaps slower than a decrease, can be carried out more rapidly than an actual disinvestment of durable capital. The difference in lags however will tend to impart a deflationary bias into the system as a whole—which *can* of course be counteracted. Investment decisions are discontinuous in any case and their timing will also be affected by actual or anticipated shifts in any of the schedules due to changes in exchange rates. These in their turn will alter the relevant propensities to consume and to import.

Against this, it is frequently argued that one of the conditions of a workable ' equilibrium ' rate of exchange is the equation of aggregate supply to aggregate demand in the trading countries. Only if inflation and deflation or inflationary and deflationary pressures are avoided can the rate of exchange be expected to work.

This argument is based on the tacit assumption that the attempt to equate aggregate supply to aggregate demand does not itself alter the relevant propensities and schedules. Demand and supply functions, with respect to price and income are assumed to be given and policy does not affect them. If there are restrictions, demand is frustrated and presses against the walls of controls. But such assumptions are not always justified. Frequently, we are not dealing with comparable schedules in two situations, one of which contains restrictions, the other of which does not. Pressures of excess demand are often modified by the imposition or the lifting of restrictions.

It is very doubtful whether one can speak legitimately of the intensity of a *given* demand, exerting a *given* inflationary pressure against controls. Controls often work more like canals and drainage systems than like absolute dams, by diverting and reducing inflationary pressures, and thus altering the underlying situation. Thus recommendations that a currency should *e.g.* be devalued so as to make the restoration of ' equilibrium ' and the abandonment of controls possible, must face the following difficulties :

First, the rise in import prices and domestic prices resulting from depreciation and decontrol may itself aggravate the danger of inflation. Unless there is a substantial shift to non-invested profits in the export trades, a most unlikely contingency, consumption and investment demand will tend to exceed available supplies. If then additional deflationary measures are recommended in order to make the devaluation and decontrol ' effective ', it is by no means obvious that this would not involve a larger, more painful, and socially less desirable reduction in consumption and investment than that brought about by restrictions.

Second, the availability of imports, though at higher prices, may raise the *propensity* to import compared with the situation in which they were not available. Advertising, joint demand, habit formation and external diseconomies of consumption will play their part. The foreign exchange problem may thus be aggravated, and even sharper dose of deflation at home might have to be used in order to restore ' equilibrium ' in the foreign exchange market. In short, restrictions on imports other than price restrictions often raise not only saving but the *propensity* to save (partly through favourable terms of trade which make money income stabilisation easier), and reduce not only imports but the *propensity* to import (by altering tastes and habits). There is no obvious reason why habits and tastes engendered by a free pricing system alone should be the ' right ' ones.

(3) EFFECTS OF CHANGES IN THE RATE OF EXCHANGE ON INCOME DISTRIBUTION

A finite devaluation of the currency *ipso facto* alters the distribution of income both within a country and between members of different countries and hence the propensities to consume, invest and import. It is therefore illegitimate to treat the problem as if it were a case of an infinitesimal variation whose consequences can be neglected.

The internal effect of a devaluation will benefit export trades and those producing substitutes for imports, while the consumers of imports and of substitutes for imports will suffer. Since wages must be assumed to be sticky there will be a redistribution in favour of profits. This will be aggravated if imports are largely necessities.

It is impossible to predict the net effect on savings but it is very probable that there will be a change. There are three possibilities : either there will be an inflationary impetus which might offset or more than offset any improvement in the balance from devaluation; or there may be a deflationary effect which would help the balance though possibly at a heavier price than is necessary, or finally internal monetary equilibrium is maintained but the amount of savings and imports is altered. In all three cases the movement in the exchange rate and the ensuing reactions are not likely to be reversible. Only in the case of zero net saving both before and after the change and absence of any monetary cumulative effects could one speak of determinate ' elasticities ', were it not for the difficulties mentioned in previous sections. In addition, one would have to take account of trade union reactions to changes in the cost of living, secondary income changes resulting from the change in the balance of trade (both on consumption and investment) and speculative movements in anticipation of price changes.

In multiplier analysis it is now generally recognised that changes in employment are not only a function of the aggregate marginal propensity to consume and changes in investment, but of the *composition* of these aggregates. Rarely are analogous qualifications introduced into the theory of demand and supply responses to exchange depreciation. Yet it is clear that the composition of the demand for imports and the supply of exports which depends on the changes in the distribution of income will affect the relevant ' elasticities '. Thus any given change in the exchange rate will have different effects upon supply and demand according to different consequential changes in income distribution.

These changes are not reversible and any given change in the terms of trade is always uniquely related to a change in income distribution. But it is well known that contractually fixed incomes are much more flexible upwards than downwards. A country whose workers have once benefited from an improvement in the terms of trade, and have grown used to a certain standard of living, may find it difficult to enforce the return to the old low real wage level if a deficit should demand such a readjustment. The worsening of the terms of trade might be brought about by unemployment, by a reduction in profits or in costs, but it is most unlikely that the movement will be parallel and symmetrical to the original upward shift. Hence ' elasticities ' will be different for upward or downward movements, according to the altered distribution of incomes. This is another reason for asymmetrical reactions.

Just as ' elasticities ' cannot be defined without provisos about changes in the income distribution *within* a country, so provisos have to be made concerning the distribution of income (per head) *between* countries. Changes in the distribution of income will affect demand and supply ' elasticities ' at least for three reasons : First, because they will change the composition of demand and supply. Secondly, because they will change the rates of growth of real income (by affecting saving and investment), and, thirdly, because they will affect the ease or difficulty of maintaining monetary equilibrium and preventing cumulative movements.

Hitherto we have discussed the difficulties that arise in the formulation of ' elasticity ' concepts if the distributional effects of price changes are irreversible. These ' elasticities ' are often used to recommend methods of achieving an ' equilibrium ' in the balance of payments through an ' equilibrium ' exchange rate. The concept of an ' equilibrium ' is often taken to stand for a desirable state of affairs. A few remarks may therefore be appropriate about the welfare implications of an ' equilibrium ' rate of exchange.

Here again the two types of distributional effects must be considered : internal and international. The choice between foreign exchange and import restrictions of luxuries, combined with ' over-valuation ' on the one hand, and of an ' equilibrium ' rate through devaluation without restrictions on the other, is not one between a ' disequilibrium ' and an ' equilibrium ', but rather between two types of domestic policies of distribution. The concept of an ' equilibrium rate ' is meaningless for *welfare* theory.

The same is true of the effects upon the distribution of income between different countries. Again, restrictions coupled with ' overvaluation ' are not necessarily a sign of ' disequilibrium '. In so far as restrictions are used to prevent an undesirable deterioration in the terms of trade of a country whose standard of living is threatened, devaluation would not produce ' equilibrium ' in a sense in which it is something commendable. If the principle of the desirability of reducing extreme inequalities in international income distribution is accepted (analogous, though not necessarily identical, to that widely accepted for internal income distribution)[1], and if other means of income transfer (loans and grants) are impracticable, then the ' overvalued ' rate combined with restrictions is nearer to an ' equilibrium ' rate in a normative sense than the so-called ' equilibrium ' rate.[2]

(4) EQUILIBRIUM AND STATIC THEORY

The simple theory of exchange rate adjustments assumes a zero level of net investment and net saving. Without changes in the level of effective demand and without changes in capital equipment, a definite meaning might conceivably be given to an ' equilibrium rate of exchange ' with the qualifications discussed in previous sections. But positive saving and investment create a number of problems. In previous sections it was argued that the rate of saving and investment will be altered by exchange rate alterations in an irreversible manner, and that even in the short run, the effects on real income, and on monetary stability must not be neglected. In the long run, when capital and real income must be assumed to grow, two additional problems arise for the definition of an ‘ equilibrium exchange rate ’.

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[1] Thus the principle that gross inequalities should be reduced might have to be qualified for international application for two reasons : First, external diseconomies of consumption are likely to play a smaller rôle internationally than internally for people are more ignorant of standards in other countries. Secondly, it is divergencies from habitual consumption rather than the absolute level of consumption that make people (within limits) feel better or worse off. Thus the international principle would be as much the prevention of lapses from habitual living standards as the equalization of living standards. This is an important argument for Marshall Aid despite the fact that Africa and Asia are much poorer than Western Europe.

[2] Difficulties arise, of course, if the desirable *international* redistribution of income does not lead to a corresponding *internal* redistribution in the benefiting countries.

First, it will no longer be possible to construct a model with a positive rate of growth (‘ trend ’) because that rate of growth itself cannot be assumed to be given. If it were independent of the fluctuations round it, a dynamic model might replace the static assumption of zero net investment. But the relative rates of growth of real income in different countries will give rise to disequilibria and the manner in which these disequilibria are adjusted will affect the rates of growth in real income. Thus a series of devaluations, even if they were practicable, might slow down the relative rate of income growth in the deficit country and aggravate the difficulties of adjustment in the future, while *e.g.* policies with less detrimental effects on the terms of trade and hence on (foreign trade) productivity might facilitate future adjustments by raising the relative growth of income and productivity in the deficit country. It is one of the difficulties of static equilibrium theory that it requires a dynamic theory of growth (domestic and foreign) before it can be applied to actual conditions, and that the dynamic changes are themselves a function of the adjustments envisaged by static equilibrium theory. The concept of an ‘ equilibrium rate of exchange ’ is ambiguous because any one rate of exchange alters the conditions underlying the moving ‘ equilibrium ’.

The second problem is this : if we assume that real income grows at different rates in different countries, a permanent cause of unbalance arises which impairs the application of such concepts as ‘ elasticities ’ and ‘ equilibrium rates ’ if applied to the long run. In the case of two countries, each expanding at a different rate, an equilibrium exchange rate is conceivable if either of two possibilities is realized : either the rapidly expanding country has a sufficiently high income ‘ elasticity ’ of demand for imports to provide a market which expands at the same rate as its output, or a sufficiently high income ‘ elasticity ’ of demand for its exportable goods to reduce the rate of growth of exports sufficiently to maintain balance ; relative inequalities will then increase cumulatively, and cyclical instability will probably be aggravated, but there would be no secular pressure to deflate or devalue on the more slowly expanding country. Or else the rapidly expanding country must inflate its costs and prices (or the slowly growing country deflate its costs and prices) sufficiently fast to prevent unbalance. In this case, given favourable price ‘ elasticities ’ a balance might be maintained, again, at the cost of cumulative inequality and possibly cyclical instability.

If either of these conditions is fulfilled the rapidly expanding country will not tend to generate export surpluses. Apart from the undesirability of these processes on grounds of equity and stability, the assumptions are not likely to be fulfilled. It is well-known that the income ‘ elasticities ’ of demand for imports are likely to be low and that the pressure to inflate on a potential creditor country is weaker than the pressure to deflate on a potential debtor country. The monetary authorities in the potential creditor country may not want to inflate sufficiently, for distributional or internal stability reasons;

even if they wanted they may not succeed in expanding credit and raising prices sufficiently ; even if they succeeded the total expenditure on the country's exports may rise as its prices rise. Thus the brunt of the pressure would fall on the deficit country with the deplorable consequences of deflation.

The alternative would be a series of exchange depreciations. But clearly, the notion of an ' equilibrium rate of change ' of ' exchange rates ' is artificial. Anticipations alone would make it nugatory. Even if it were imperfectly foreseen, it would lead to a series of financial crises. Speculative forces would swamp the underlying ' real ' forces and expectations about the equilibrium rate of change of the exchange rate would produce grave disequilibrium. The well-known vicious spiral of inflation and devaluation would be at work, for internal price rises will also be anticipated and will aggravate the difficulties. Capital flight to the countries against which the currency is expected to be depreciated will be encouraged with very awkward effects on current account transactions. It appears that the concept of a constantly moving rate of exchange creates more difficulties than it solves.

Like the rate of interest, the ' equilibrium rate of exchange ' does not depend only on the level of effective demand but also on the rate of growth of real income. It will both affect this rate of growth (which, as we have seen above, is a function of productivity, an important determinant of which is the value productivity of the terms of trade) and be affected by it. This weakens the case of the ' elasticity optimists ' who argue that it is the long-run ' elasticity ' that matters if devaluation is considered and that it is likely to be high. The longer the run, the more time will have passed for investment and real income effects to work themselves out, and swamp the price effects of devaluation. It is, of course, on the face of it, not obvious in which direction these effects will work in any particular case. But the concept of a long run ' elasticity ' of demand is unwarranted and the concept of a long-run equilibrium rate of change in the exchange rate is, quite exceptional circumstances apart, self-defeating.

Conclusions

The use of the concept of ' elasticity' in the analysis of international economic problems has been shown to disregard complications of a sufficient order of magnitude to render the procedure inappropriate. The various functions, the ' elasticities ' of which are supposed to govern the reaction of the balance of payments to the variations of exchange rates, have been shown to be interrelated in such a way that the calculation of 'elasticities' may involve indeterminacy as the functions are shifted and probably distorted.

Secondly, we found, as one would expect, in the case of functions which represent macro-economic aggregates, that the state of employment in the constituent units has an important bearing on the reactions of the balance of payments to changes in the rate of foreign exchange and tends to render them irreversible and unique. Thirdly, the traditional analysis tends to neglect variables other than price/quantity relations, and thus gives an over-simplified view of these relationships. Fourthly, finite changes in the rate of exchange alter not merely the distribution of the national income but also the size of the real income. Thus not only the savings and investment schedules are changed, but with them cumulative movements are engendered quite apart from the secondary multiplier effects of the change in the balance which alone has received attention.

If all these factors are taken into account it would seem that the practical men who have always been disinclined to permit changes in foreign exchange rates once they were established, were more often right than economists.

Although some of our arguments point in the opposite direction, it appears that, on balance, they lead to the advocacy of a greater degree of exchange rate stability than is popular to-day. Though exchange rate alterations are suitable in *some* conditions, their value is doubtful if the necessary adjustments are *large*. And it is likely that in the literature the size of the required adjustments has been underestimated, and the effectiveness of devaluation in bringing about any given adjustment over-estimated. Hence slight adjustments may be ineffective and large changes may throw the whole international system into movements, the final consequences of which are exceedingly uncertain. Weaker countries who cannot take risks would seem likely to suffer most.

We have also seen that exchange rate alterations are unsuitable remedies if they would have to be used *repeatedly* at fairly short intervals. Finally, even where their application promises to be remedial, they ought always to be considered in conjunction with full employment and international distributional effects, and effects on internal monetary stability. Only if no excessive sacrifices of these alternative objectives are required can one advocate devaluation with a clear conscience. Orthodox theory based on the stability of partial equilibria and the variation method, suffers from the same deficiency as the theory used to justify certain wage policies : Far-reaching practical measures are prescribed on the basis of simple abstract models without consideration how to qualify and modify these models in order to adapt them to real life.

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DIFFERENCES BETWEEN THE WAGES OF SKILLED AND UNSKILLED WORKERS, 1880–1950

I. INTRODUCTORY

The purpose of the present study is to examine changes in wage differentials between skilled and unskilled[1] workers in different industries, and to suggest explanations for these changes. Differentials between the wages of workers doing ' identical ' jobs in different industries, and between those of men and women doing ' identical ' jobs in the same industry, are excluded. So, in the main, are regional differentials.

The remuneration of workers can be considered in terms either of wage rates or of earnings. Timeworkers' rates of wages are expressed in the current time rate (*i.e.* the agreed wage rate for a given number of hours' work in a given occupation). This includes (*a*) the ' basic rate ' for the job (which may vary regionally), and (*b*) any additions currently agreed and generally accepted by employers' and workers' organisations, in respect of particular circumstances (*e.g.* cost-of-living or war bonuses), of changes in job definition, or of the age of the worker. Pieceworkers' rates or wages include (*a*) the ' time rate for pieceworkers '. This is not necessarily the same as that for timeworkers, and is intended to provide a basis for calculating (*b*), the standard piecerate. This latter is designed to enable the average pieceworker, under normal conditions, to earn a certain percentage above the time rate for pieceworkers. Timeworkers' earnings may include, in addition to the current time rate, special allowances such as ' dirty money ', ' incentive ' payments (*e.g.* ' merit money ', or payments under particular bonus or profit-sharing schemes), and overtime payments. Pieceworkers' earnings will include the time rate for pieceworkers and piecework payments (which may diverge fairly widely from the standard piecerate); they may also include special allowances, additional ' incentive ' payments, and overtime payments.

Statistical information about wages in this country covers :—

(i) wage rates (*i.e.* current standard or minimum time rates of timeworkers) for particular occupations, and average wage rates (*i.e.* weighted averages of these rates) for particular industries and for the economy as a whole;

(ii) average earnings (*i.e.* the total wage bill divided by the total of workers employed) for particular occupations and industries.

An enquiry into changes in the skill differential requires, ideally, (*a*) wage statistics extending over a considerable period of time, and (*b*) a certain consistency in the categories of workers whose wages are selected for examination : the more an industry has been subject to technological or inter-occupational change, the less valuable the comparison. The combination of these two requirements is bound to limit the possible scope of the enquiry. Only a fairly small range of industries satisfies even requirements (*a*), and it will therefore be necessary not to insist, except by way of qualification, on (*b*). Moreover, the available statistics are in the main those of timeworkers' time rates. How far these rates continue to be representative, and how far earnings follow the same course, will have to be considered in particular cases.

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[1] In default of adequate criteria of skill (*e.g.* qualification by training or experience), this means relatively high-paid and relatively low-paid.

It is commonly accepted that, in general, skill differentials have been narrowing for a long time. What is not so clear is the relative rate of change in different industries, the extent of fluctuation, and the relative importance of the factors making for change. These points must now be considered.

2. Fluctuations of the Relative Skill Differential in Certain Industries

The skill differential can be regarded in one of three ways : firstly, as the absolute difference between the wages of skilled and unskilled in money terms; secondly, as the same difference expressed in real terms; or thirdly, as the relative skill differential, *i.e.* the unskilled wage as a percentage of the skilled wage. This article is concerned with the last of these.

We may start with a table which gives a rough picture of the course of the differentials between the wage rates of typical skilled and unskilled grades of workers in four industries. (The police force is also included, for purposes of comparison and contrast). To spare the reader, though not of course to minimise the importance of these considerations, all discussion concerning sources and methods of compilation is relegated to an appendix.[1] Such problems are notoriously acute; and the figures in Table I can give no more than a general picture.

The table shows considerable stability in all industries up to 1914. Thenceforward there was a sharp movement upwards, until the breaking of the post-war boom. The subsequent fall stopped well short of the pre-war level, and a further period of stability lasted until the late 1930's. With the onset of the second world war there was a further rise, albeit rather less steep. The movements of the differentials in building, shipbuilding, and engineering are similar; those for the railways and the police show, unlike them, a decided trough in the 1930's. Throughout the period there is a clear tendency for skill differentials in the different industries to approach each other : by 1950 those for building, shipbuilding, and engineering were close together at well over 80 per cent., while those for the railways and the police, though somewhat lower, were tending to catch up. All this may be illustrated graphically by the accompanying chart.

The experience of other industries, so far as this can be determined, seems in the main to confirm the general impression given above. In Table II we give the general course of skill differentials for some years in certain other industries. (The exceptionally high figures for 1920 reflect the position at the height of the post-war inflation).

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[1] A summarised table showing changes in the wage rates of skilled and unskilled workers (including agricultural workers) is also given in the appendix, so that these may be compared with the movements of the differentials.

TABLE I

Skill Differentials in Four Industries and the Police Force

Year.	*Time rate of unskilled as percentage of that of skilled.*[1]				
	Building	Shipbuilding	Engineering	Railways	Police
1880	63.9	54	60		
1885	63.6	54	60	50.5[2]	81.6[2]
1890	65.6	51	59		
1895	67.1	53	60		
1900	66.7	52	58		
1904	65.6	53	59		
1907	64.9			50.9	
1910	65.2				
1913	66.9			51.4	
1914	66.5	55.2	58.6	54.3	
1915	69.3	59.2	61.8	59.3	
1916	72.2	62.0	64.4	63.4	
1917	75.4	69.9	72.4	69.9	
1918	80.1	73.6	75.7	74.8	
1919	83.1	75.3	77.2	74.3	70.0
1920	81.0	77.2	78.9	81.2	70.0
1921	80.1	75.3	74.4	79.4	70.0
1922	74.8	74.5	71.7	71.5	70.0
1923	74.7	78.6	72.8	68.1	70.0
1924	75.6	68.8	70.9	68.1	70.0
1925	75.6	68.8	70.9	69.4	70.0
1926	75.6	68.8	70.8	68.1	70.0
1927	75.4	68.8	71.7	66.7	70.0
1928	74.8	68.0	71.3	66.7	70.0
1929	74.7	68.0	71.3	65.2	70.0
1930	74.5	68.5	71.2	63.9	70.0
1931	75.0	68.3	71.2	61.6	70.0
1932	74.6	68.3	71.2	61.6	62.0
1933	75.2	68.3	71.2	61.6	62.0
1934	75.3	68.3	71.2	61.6	62.0
1935	74.9	68.3	71.9	61.1	62.0
1936	75.2	69.3	72.8	61.1	62.0
1937	75.0	71.2	74.1	61.0	62.0
1938	75.6	72.1	74.9	61.0	62.0
1939	76.3	73.4	75.6	61.5	62.0
1940	77.9	75.3	77.2	64.7	67.3
1941	78.9	77.7	79.6	66.3	69.4
1942	79.3	79.2	79.6	72.8	69.8
1943	79.2	79.2	80.9	74.1	67.7
1944	79.0	80.1	80.9	75.4	68.7
1945	80.8	81.0	81.9	76.0	70.3
1946	80.0	81.8	84.4	74.9	70.0
1947	80.3	81.8	84.4	76.5	70.0
1948	80.4	81.8	84.4	74.6	70.0
1949	81.6	82.6	86.0	74.6	75.6
1950	84.1	81.7	84.7	77.4	75.6

[1] The occupations chosen for comparison in each industry are given in the Appendix.

[2] 1886.

Cost of living & skill differentials, 1880 - 1950

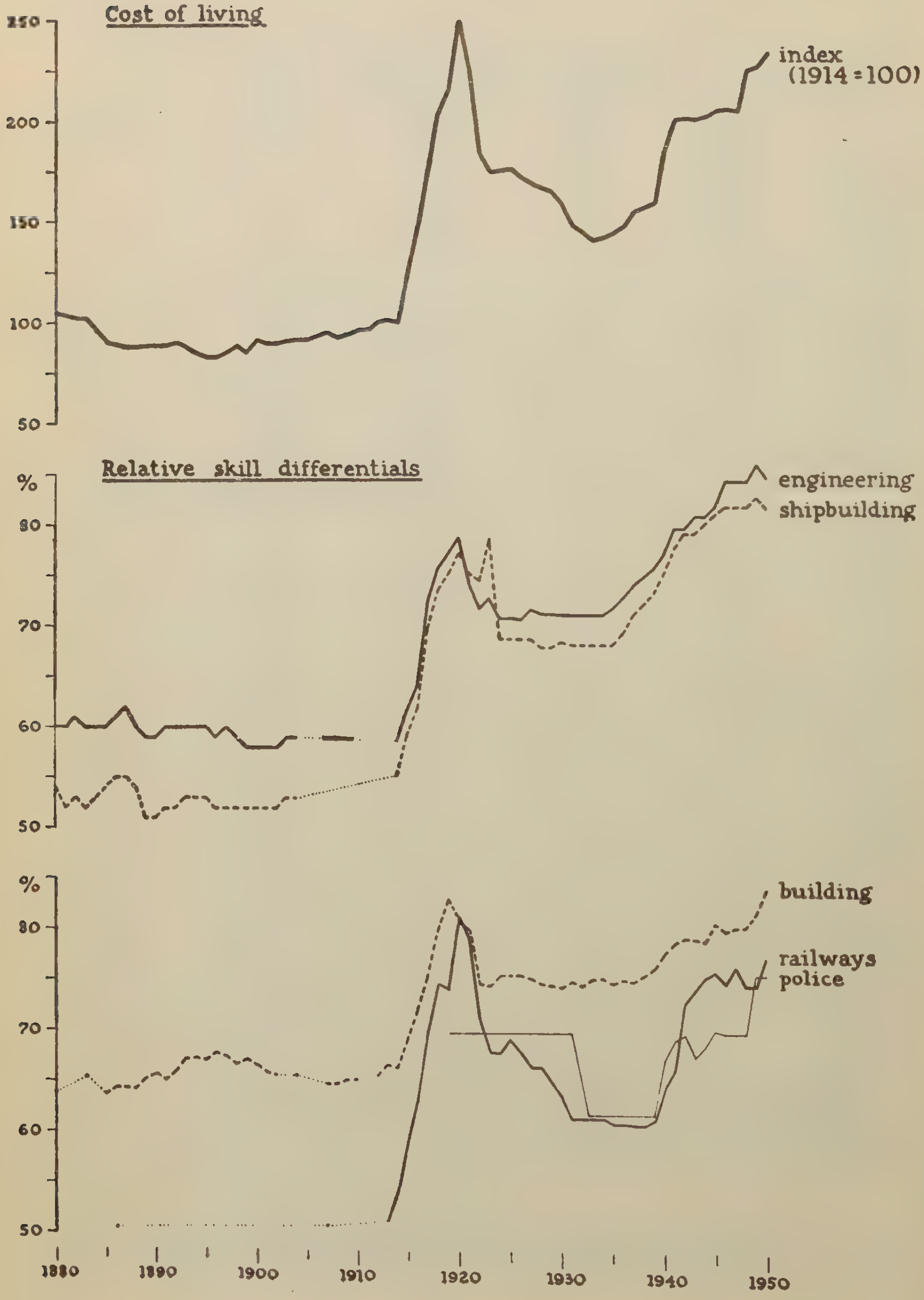

TABLE II

Miscellaneous Skill Differentials (per cent)

Industry	*1920*	*1927*	*1929*	*1936*	*1950*
Merchant Service*	68.9	50.0	50.0	50.0	62.5
Printing	72.4	72.4		72.4	79.0
Flour Milling		78.1		78.1	80.3
Baking	90.9		84.3		85.1
Railway Wagon Building	81.1		68.4		87.0
Pen Making	79.2		61.1		69.7
Vehicle Building	72.5		69.0		84.8
Leather Currying and Tanning	79.7		83.3		89.7
Drugs and Fine Chemicals	86.7		84.1		90.7

* The comparatively wide differential is probably due to the fact that the rates taken were net of food and shelter, and the differential therefore represents the difference in the 'spending money' of the two categories.

3. FLUCTUATIONS IN THE RELATIVE SKILL DIFFERENTIAL IN RELATION TO OTHER ECONOMIC CHANGES

By a 'narrowing' of the relative skill differential is meant a rise in the rates of unskilled workers as compared with those of the skilled; by a 'widening', the opposite process. A bigger, equal, or more-than-proportionate change in the rates of the unskilled will narrow the differential when both sets of rates are rising, and will widen it when they are falling. A smaller and less-than-proportionate change in unskilled rates will of course have the opposite effect.

It is customary to relate fluctuations in wage levels to general cyclical fluctuations. For this purpose the two most relevant movements are those of unemployment and of the cost of living.

(1) *Unemployment*

Unemployment may be thought likely to have influenced the relative skill differential, firstly because skilled workers are usually more highly organised, and secondly because they are more closely attached to their industry than are the unskilled. Moreover, while the reserve for the unskilled grades includes unemployed skilled workers,[1] the reverse is not true. Thus there is a tendency for unemployment to be concentrated in the 'tail' of an industry, which would suggest that the skill differential should widen in industries with a high level of unemployment. (In certain industries, too, when unemployment is severe, employers are likely to be able to depress the wages of unskilled entrants more easily than those of established grades).

But in fact, so far as our evidence goes, this widening did not occur. During the depression of the early 1930's, unemployment was very high in shipbuilding, high in engineering, and low on the railways.[2] Yet, of these, railways was the only industry which showed a definite widening of the differential, and this was because flat-rate changes in railwaymen's wages

[1] 'There is, in fact, for unspecialised manual labour, a practically unlimited "reserve army" made up of the temporarily unemployed members of every other class.' (Webb, *Industrial Democracy*, 1926 edn., p. 758).

[2] Unemployment even for the small category of insured workers on the railways was far lower than for the other industries.

were made in accordance with changes in the cost-of-living index. In fact—as would appear from the experience of the three other industries—fluctuations in unemployment (below the level of ' full employment ') do not seem to have influenced the fluctuations of skill differentials very much.

In general, of course, it could still theoretically be maintained that the effect of unemployment in widening the skill differential has been outweighed by other trends—for example, the development of mass-production methods which diminish the need for many skills and hence increase the relative demand for unskilled workers; or again, a growth in real earnings or a general development of education could be held to increase the relative demand for unskilled workers and thus affect their relative status.[1] But here we can do little more than speculate.

(2) *Cost of Living*

The movement of the cost-of-living index was shown on the chart above.[2] There has obviously been a general correspondence between this movement and those of the differentials.[3] While, as has already been said, there are several ways of accounting for narrowing skill differentials, we may take the case of equal money increments to both skilled and unskilled as typical.[4] When in times of rising prices—notably of course the two war periods—increased wages were granted[5] to meet changes in the cost of living, employers tended to insist on the temporary nature of the increase,[6] and to offer a ' bonus ' to all workers (usually a flat-rate addition and therefore a more-than-proportionate increase to unskilled workers, which had the effect of narrowing the differential). Since however the Unions were bent on securing, if possible, permanent increases in rates, they often demanded the incorporation of these ' bonuses ' into the basic rate. (If they did not succeed, of course, the differentials widened once more when the ' bonus ' was removed—as it was in part at least, in certain cases after the first world war.)

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[1] On these points, *cf.* J. H. Richardson, *Some Aspects of Recent Wage Movements, International Labour Review, February* 1928 ; and A. G. B. Fisher, *Education and Relative Wage Rates, ibid.*, June 1932.

[2] The scale is such that a 1 per cent change in the differentials is equivalent to one of 5 points in the cost-of-living index.

[3] It is of course not reasonable to compare the relative levels of skill differentials in different industries in so far as the relative occupational skills are themselves not comparable. The extent of change in the skill differentials is also strictly speaking not comparable between industries, partly for this reason, and partly also because given flat-rate increases will have a greater effect on the differential where this is wide. (Conversely, in those industries where differentials are already narrow, greater flat-rate increases than in industries with wider differentials will be needed to effect the same change in the differential. Thus, as skill differentials narrow in each industry, they will tend to draw closer together.)

[4] That this is so could be seen if we were to plot the fluctuations of the absolute difference in money terms between the rates of the skilled and the unskilled for our four industries. With the prime exception of the railways (where the skilled workers definitely increased their lead in money terms after 1921), the curves are in general remarkably stable, and show only a slight tendency for the money difference to increase over time.

[5] It may be that big changes in money wages granted for reasons other than the cost of living tend to result in a narrowing of the skill differential ; but it is difficult to establish this.

[6] It was not until the middle of the second World War that the engineering employers were induced to alter the pre-1914 rate by incorporating certain ' temporary ' increases previously granted.

There are of course many other factors relating to the skill differential which urgently require investigation, but which cannot be dealt with in this brief historical sketch. We have no criteria of relative skills, and have therefore to assume that relatively high-paid means relatively-skilled : an assumption which at worst begs the question, and at best can be no more than a rough-and-ready guide. This difficulty is underlined by the emergence of the so-called ' semi-skilled ' category. Moreover, since the semi-skilled are for the most part working on piecerates, any detailed study of skill differentials requires data on occupational earnings. At present such information is probably available in sufficient detail only from particular firms. Again, the present evidence is inadequate to bear a proper examination of the possible association of wide differentials with high- or low-wage industries, with industries where wages form a high or low proportion of total costs, and with industries which are contracting or expanding. These are only a few of the questions which should form part of future enquiries.

4. Trade Union Attitudes

The development of skill differentials was for a long time more or less haphazard, determined by local tradition and to some extent by the availability of particular grades of labour : ' so complete, indeed ', wrote J. S. Mill, ' has hitherto been the separation, so strongly marked the line of demarcation, between the different grades of labourers, as to be almost equivalent to an hereditary distinction of caste . . . Consequently the wages of each class have hitherto been regulated by the increase of its own population, rather than that of the general population of the country.' Industrialism, however, broke down the traditional distinctions in many cases ; and it seems probable that the strong craft Unions of the mid-nineteenth century were able to establish a new wage differentiation in favour of their members, although in the absence of national wage negotiation marked regional diversities persisted. The organisation of the unskilled towards the end of the century challenged the skilled workers' position—a challenge which was repeated owing to the subsequent changes in industrial technique and to the emergence of the semi-skilled grades. The impact of the first World War, and the system of national wage negotiation which developed, helped to iron out regional and other anomalies ; and since the end of the second war full employment and the exigencies of the economic and political situation have suggested the need for assessing the relative claims of different grades of workers.

It has traditionally been supposed that the Unions have been concerned primarily to raise or to maintain money wages rather than real wages (this certainly seems true if wage-cutting is in prospect, when 'it can be affirmed without much qualification that the trade union leadership resists money wage reductions to the point of strike—'whenever possible '[1]); although some writers, for example Dunlop in the article just quoted, have called attention to the frequent use of the cost-of-living argument.

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[1] Dunlop, *The Movement of Real and Money Wage Rates, Economic Journal*, September 1938. The fact that the average number of workers per wage-increase strike between 1911 and 1947 was 588, as against 2,088 for wage-decrease strikes, suggests a very much stronger Trade Union backing for the latter.

It is true that the T.U.C. warmly welcomed the introduction of cost-of-living sliding scale;

> ‘ the failure to distinguish between real wages and money wages has over and over again led the workers in the wrong direction, and the fact that a Cost of Living Sliding Scale does once and for all sweep out of the way the source of this confusion is the strongest argument in its favour. There is an end to all the fighting to keep money wages rising as prices rise, and all the efforts of Labour can be concentrated on raising real wages and so improving the standard of life of the workers.’[1]

Such sliding scales are of many different types. The great majority of them have provided for flat-rate changes of one kind or another which operate according to changes in the cost-of-living index at stated intervals (quarterly for the railways, annually for building, and so on). These changes may be equal in money terms for all grades, as they were on the railways when the sliding scale was in operation; in which case, of course, differentials will fluctuate with living costs. Alternatively however the changes may be different for different grades; or again they may be the same for all grades but related to larger or smaller variations in the cost-of-living index according to the grade of the worker. Sliding scales of these latter types may be more or less tantamount to a scale providing for equal percentage changes for all grades, and their operation may have little effect on differentials. There are many other variants.[2] But in practice the cost-of-living sliding scale has not proved consistently popular, partly because of the mechanical shortcomings of the device and because the index itself has not been sufficiently reliable, but partly also because of the occasional necessity of money wage reductions.[3] Moreover although the Unions have been compelled to concern themselves with real wages when prices are rising very rapidly—*e.g.* in war-time—it seems doubtful whether they have felt the force of the argument at other times, especially when prices have been falling. Thus, although in fact real wages may have been improved by Union pressure, it is another thing to affirm that this has been their prime motive at all times.

The Unions have backed their wage claims by a number of arguments, relating to productivity or the profitability of particular industries,[4] the risk[1] or unpleasantness of the work in particular occupations, the level of wages in other branches of the same trade or in other trades, subsistence requirements, the cost of living, and so on. Of these arguments, the only one with relevance to all industries is that based on the cost of living. (The acceptance of the other arguments may result in changes which will alter the skill differential according to the particular occupation and trade affected, but will not produce a trend in the movements of differentials as a whole). The Unions have, in the past, naturally pressed without qualification for the incorporation of 'temporary' cost-of-living increases in the basic rate and have resisted their removal even when the cost of living has begun to fall. When such increases were originally granted, the incidental narrowing of the skill differential was accepted, no doubt partly because of minimum wage considerations; when the increases were eventually incorporated, the narrowed differential was maintained because incorporation was the simplest way to consolidate gains. It is thus tempting to say that the narrowing of skill differentials has been largely a by-product of Trade Union activity on wage questions. The Unions have not hitherto been concerned with justifying existing differentials; while the craft Unions have naturally tended to assert the principle of ' relativity ' (*i.e.* of the maintenance of skill differentials[2]) other Unions have not been concerned with this question, and, save under pressure of exceptional circumstances, differentials have tended to stay as they were. In those industries which we have been considering, even where rates fell during the inter-war period, differentials remained fairly steady.[3]

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[1] T.U.C. and L.P., *Industrial Negotiations and Agreements*, 1922.

[2] *Cf.* p. 117, n. 4, also Pool, *Wage Policy in Relation to Industrial Fluctuations*, 1938, ch. viii.

[3] In 1925 the number of workers covered by such scales was 2½ million, but in 1933 the effective coverage was probably less than one million. In 1939 it was 1½ million ; during the war it rose to about 2½, and has fallen since to a nominal 1½ (October 1949). (The wage-freeze of course interrupted the operation of these scales).

[4] Selling-price sliding scales have of course been operated in the past in other industries (*e.g.* in coal mining and, more notably, in iron and steel), and have no doubt affected differentials ; but they have tended to encourage restrictive and collusive practices, and have generally been condemned by the Unions on a number of grounds (*cf.* Pool, *op. cit.*, ch. v).

The exception has been the railways. It must be remembered that there had previously been a very considerable narrowing of the skill differential (the N.U.R., designed to bring the ' unskilled ' workers into a single industrial Union, was formed shortly before the first World War), and the post-war widening represented a partial recovery by the skilled workers of their relative position. Again, the railways have traditionally been regarded as a public service, where employment is relatively secure, rather than as a private industry, so that public opinion (which has tended to demand that wage changes should bear some relation to living costs) may be partly responsible for the tying of railwaymen's wages to the cost-of-living index.[4]

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[1] On the whole, however, " risk-bearing " is not rewarded in the case of labour, *i.e.* it is not a " necessary " cost of production.' (See K. W. Rothschild, *Wages and Risk-Bearing, O.U. Institute of Statistics Bulletin,* September 1945).

[2] When the N.U.R. claimed a flat-rate increase of 10s. in 1949, the A.S.L.E. and F. nsisted that ' the principle of relativity must not be disturbed '. The Confederation of Shipbuilding and Engineering Unions, on behalf of the shopmen, remarked that ' a lessening of the differential between the floor and the ceiling would be a serious matter ' (*Report of Board of Conciliation relating to Salaries, Wages and Conditions of Service on the Railways,* 1949).

[3] It seems relevant to recall that at this time it was not the fall in the cost of living to which employers pointed when demanding wage reductions, but the unprofitability of industry.

[4] The wage rates of craftsmen in the building industry have also been subject to a cost-of-living sliding scale, but labourers' rates have tended to be fixed at a set percentage of these. Thus the correspondence between the fluctuations of the cost-of-living index and the skill differential in building from 1914 to 1949 is weaker than in the railways ($r=0.62$ and 0.92 respectively). The determination of railwaymen's wages by a cost-of-living sliding scale was abandoned in 1940 at the request of the Unions.

(The wages of the police—also a public service—likewise showed a movement of the differential roughly corresponding with the fall in the cost of living; but since there have been no Unions in the police force since 1910, the changes in the differential—and in rates—were, except during the second world war, determined by the frequency of the appointment of Committees of Inquiry).

During the second world war there was a further sharp narrowing of skill differentials. After the war ended, many factors—the difficult economic position of the country, the great political responsibilities of the Unions, full employment, the development of a national wages policy in other countries and the frequent discussion of the subject inside and outside the T.U.C., and, not least, the delayed influence of Keynesian economic thought—made it inevitable that the question of wage differentials of all kinds should receive attention.[1]

It would seem to be desirable that relative skill differentials between workers of comparable skilled and unskilled grades in different industries should be made uniform—except where special incentives for skilled workers are needed[2]; though this, of course, would involve the use of far more advanced methods of job evaluation than have yet been worked out. In any case some rough-and-ready simplification of differentials (skill and regional) is already in progress. For instance the engineers, in 1945, proposed a regrading into three main groups;[3] and in 1949 the miners suggested a regrouping of workers into three main surface and three main underground groups, with the insistence that ' any subsequent wage agreements entered into should aim at ensuring that any advantages which certain grades may possess shall be progressively absorbed, *i.e.* differentials must be progressively eliminated.'[4]

The present general level of the skill differential need not, of course, be permanent. It may be that as a result of the reduced relevance of minimum wage considerations owing to the development of social services and welfare provisions, or for other reasons, a widening of the differential may be found temporarily expedient[1]—as appears to have been recommended by the latest Court of Inquiry on railway wages (February 1951).

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[1] ' Each claim for an increase in wages or salaries must be considered on its national merits and not on the basis of maintaining a former relativity between different occupations and industries.' (*Statement on Personal Incomes, etc.*, 1948).

[2] Mr. Jack Tanner, at the 1949 annual meeting of the Confederation of Shipbuilding and Engineering Unions, suggested that the skill differential in engineering was too narrow to attract the skilled workers needed : the Union proposals expressed ' a clear desire to increase the differential between the unskilled and the skilled man ', since the existing differential ' did not compensate a young man who had served a five-years' apprenticeship.' Similarly, a doubt was expressed by P.E.P. (*Planning*, 20/11/50) whether the skill differential in building was big enough either to encourage apprentices to train or to impel employers to make economical use of skilled labour. Whereas in the U.S.A. the labourer's rate is no more than from 57 to 65 per cent of the craftman's, it is already well over 80 per cent in this country. The recent fixing of a money difference of 5½d. an hour will narrow this differential still further whenever wages rise : the new increases operating in March 1951 bring it to 85.3 per cent.

[3] However, the latest agreement relating to adult male workers in engineering which came into effect in November 1950, emphasised that craft differentials between different classes of skilled workers established ' by custom or practice ', and district differentials, should be maintained. (See *A.E.U. Monthly Journal*, December 1950.)

[4] *N.U.M. Annual Conference Report*, 1949. When, in October 1950, the National Reference Tribunal awarded about £3½ million to increase mine-workers' wages, with the suggestion that differentials should be preserved ' to some extent ', the eventual agreement on the distribution of the sum had the effect of narrowing differentials, especially in favour of juvenile workers. (See *N.U.M. Information Bulletin*, November–December 1950.)

5. The Level of Skill Differentials in 1950

It seemed worth reviewing the present position to see how far the ' settling down ' of skill differentials had gone. The skill differentials for 1950[2] in thirty-four industries (other than those already discussed) were therefore examined, and it was found that the general level was about 80 per cent. The differentials in more than half the industries examined were within 5 per cent of this.

6. Further Problems

(1) *Regional Differences*

We have ignored all regional differences as such, and are here concerned with them only in so far as they affect the validity of the ' national ' skill differentials which we have presented. In general, as one might expect, regional differences tend to diminish as the years go by. Table III shows the

Table III

Wage Rates in Building : Regional Diversity of Skill Differentials

Year	*Great Britain :*[1] *Average*[2] *differential* (%)	*England and Wales :*[3] (A) *Highest differential* (%)	(B) *Lowest differential* (%)	(C) *Difference* (*A–B*)	*London :*	*Scotland :*[4]	*Ireland (Belfast) :*
					Average differentials (%)		
1877	63.6	70.6	52.7	17.9	63.9		
1887	64.3	72.9	57.1	15.8	63.9	65.9	44.5
1897	67.6	72.3	61.7	10.6	70.0	63.1	49.6
1907 (July)	64.9	72.2	57.9	14.3	66.4	56.9	49.6
1913 (July)	66.9	72.2	57.1	15.1	68.2	58.5	49.6
1925 (Dec.)	75.6	76.4	73.8	2.6	76.7	76.3	61.9
1936 (Dec.)	75.2	75.7	73.2	2.5	75.0	75.0	65.0
1946 (Aug.)	80.4	80.8	80.0	0.8	80.0	80.0	
1949 (Sept.)	80.0	80.8	80.0	0.8	80.8	80.0	
1950 (Oct.)	84.1	84.7	83.4	1.3	84.7	84.1	

[1] Before 1907, England and Wales only.

[2] Unweighted average of percentage differentials for as many localities as available.

[3] Figures for 9 localities were available in 1877 ; 16 in 1887 and 1897 ; 36 or more from 1907 ; all areas of Great Britain from 1946 to 1950.

[4] Edinburgh and Glasgow in 1887 ; Glasgow only in 1897 ; Glasgow, Edinburgh, and Dundee in remaining years, with Aberdeen in 1936 ; all areas of Scotland from 1946 to 1950.

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[1] The T.U.C. attitude was expressed in two statements concerning the freezing of wages. In March 1948 they insisted on the safeguarding of wage differentials ' required to sustain those standards of craftsmanship, training and experience that contribute directly to industrial efficiency and higher productivity ' (*A Policy for Real Wages*) ; ' however, changes in wage differentials are not the only form of incentive and in the opinion of the General Council the over-riding consideration for a period is the need to prevent post-devaluation cost and price increases getting out of control' (*Trade Unions and Wages Policy*, January 1950). In the long run, of course, the level of relative skill differentials may be influenced by technological change ; indeed, the status of many ' unskilled ' operations has been advanced by mechanisation. It might even be maintained that increased adaptability and the growing preference for skilled work might justifiably reverse the wage positions of skilled and unskilled workers.

[2] Details will be found in the appendix.

changing regional spread of skill differentials in the building industry, and the disappearance of regional differences is clearly shown. (In the last three columns of the table, specific figures for London, Scotland, and Ireland are included, by way of illustration).

In railways, regional differences disappeared with amalgamation. In shipbuilding, they finally went with the advent of the second world war ; in engineering they had become very small by 1945. (In both engineering and shipbuilding, the position before 1914 makes national averages somewhat dubious, and the differentials are given with that qualification).

(2) *The Relation between Rates and Earnings*

It would have been preferable to use actual earnings, if possible, rather than rates for the purpose of calculating differentials. Clearly the development of piecework since 1906 (the date of the last comprehensive occupational earnings enquiry) must have made rates increasingly unrepresentative of earnings.[1] In practice, it seems probable that a detailed earnings enquiry would reveal that in certain cases at least the skill differential based on wage rates has been obscured by the trend of actual earnings, and that ' semi-skilled ' pieceworkers sometimes earn more than skilled workers. While the skill differential is based upon nationally-negotiated rates, piecework and other ' incentive ' payments are adjusted on a workshop basis; and although national agreements may exist regulating minimum payments, under present conditions of labour shortage actual payments may be far in excess of the minimum—and are not subject to national regulation. (This, of course, is particularly true of engineering). However, differentials based on rates are not necessarily always misleading; and, while it would obviously be desirable, in default of a national survey, to undertake limited enquiries on earnings by occupation, for the present we must take time rates as adequate.

In Table IV we compare average weekly wage rates with average weekly earnings for the building industry. Here it is possible to make a rough estimate (admittedly no more than a mere indication of trends) of the relation between rates and earnings, since in building there is no large group of semi-skilled pieceworkers to distort the figures of average earnings. We must remember, however, that in so far as the building industry is not characteristic in this respect, the relevance of this example for other industries is reduced. In the years shown, there is no great discrepancy until 1940.[2] However, in war time, the increase in overtime earnings and in special payments meant that rates lagged seriously behind; and, though they almost caught up in 1946, the building boom has caused earnings once more to take a decided lead. It was of course during the war period that our differential narrowed most sharply, and it would be interesting to know how far this represents what really happened in terms of earnings.

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[1] However, ' it is interesting to see that average earnings are no longer moving more rapidly than average wage rates ' (*i.e.* in the industries of the L.C.E.S. index). (Bowley, *L.C.E.S. Bulletin*, May 1949).

[2] The 1924 figure provides a commentary on the national builders' strike in July and August of that year.

TABLE IV

Comparison of Average Earnings and Average Rates in Building

Year and month	(A) *Average earnings* (*shillings*)	(B) *Average wage-rate* (*shillings*)	(A—B) *Difference* (*shillings*)	*Percentage difference*
1906 (summer)	34.2	35.3	—1.1	—3
1924 (April)	58.1	65.1	—7.0	—11
1931 (October)	58.3	61.5	—3.2	—5
1935 (October)	61.4	59.9	1.5	3
1938 (October)	66.5	65.6	0.9	1
1940 (July)	82.9	70.8	12.0	17
1941 (July)	95.7	76.8	18.9	25
1942 (July)	98.5	78.7	19.8	25
1943 (July)	105.0	81.8	23.2	28
1944 (July)	103.8	81.8	21.0	27
1945 (July)	108.1	89.5	18.6	21
1946 (October)	108.5	102.9	5.6	5
1947 (October)	114.7	102.9	11.8	11
1948 (October)	128.3	115.1	13.2	11
1949 (April)	130.7	116.6	14.1	12
1950 (April)	137.3	120.4	16.9	14

The limited evidence for the railways given in Table V suggests that, in this industry, the use of rates has not produced a very different picture of the skill differential from that which would have been obtained by using earnings figures, if these had been available.

TABLE V

Rates and Earnings—Railways (*shillings*)

Year	*Engine Drivers*			*Goods Porters*		
	Average weekly wage	*Average weekly payment*	*Percentage difference*	*Average weekly wage*	*Average weekly payment*	*Percentage difference*
1907	40.3	45.9	+11	20.8	21.8	+ 5
1936	87.5	99.3	+13	44.4	49.3	+11
1938	86.8	100.8	+16	45.1	51.3	+14
1939	87.2	101.7	+17	46.8	57.3	+17
1949	135.8	165.7	+22	93.1	109.9	+18

7. CONCLUSION

In summary it may be said that the development of the skill differential has shown three main characteristics :

(1) There has been a considerable narrowing within particular industries. This has taken place ' in a fit of absence of mind ', largely owing to the practice of granting flat-rate increases to meet the rising cost of living. If it could be shown that particular industries were suffering from a shortage of skilled workers, this might be taken to indicate that the narrowing process had already gone too far; but although in wage negotiations appeals are sometimes made to maintain or widen the skill differential in order to ensure an adequate supply of skilled workers, actual evidence is usually lacking.

(2) There has been a tendency to simplification—*i.e.* to the reduction of the number of separate grades of skill. There has been Trade Union pressure for this, and it is naturally furthered by the system of national collective bargaining. It seems certain that the process of simplification has in fact

eliminated many completely fortuitous differences which have little relation to relative skills, and for this reason it is to be welcomed.

(3) A by-product of the above has been a general tendency towards uniformity of skill differentials in different industries—around a level of 80 per cent. It is impossible to say, without studying the comparability of relative skills, how far this uniformity is ' reasonable '; but it is certainly a convenience in so far as it provides a stable background against which to make, if necessary, purposive changes in differentials.[1]

It must be stressed once again that these developments have not taken place in conformity with any clearly defined or generally accepted principles, but rather owing to the practice of granting flat-rate increases to meet the rising cost of living, and in general to the effect of institutional factors connected with the character of collective bargaining.[2]

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APPENDIX

Nineteenth century wage statistics are fragmentary and confusing. Precise and comparable definitions of regions, of jobs, and of wages are usually lacking. The period has of course been investigated by Bowley, and we have relied on his material up to 1904. After this date our most fruitful source has been the publications of the Board of Trade and later the Ministry of Labour. The *Abstracts of Labour Statistics* run up to 1936, although the information is far from comprehensive before 1914. From 1936 we have used the Changes in Rates of Wages tables in the *Gazette*, and after 1945 the *Time Rates of Wages and Hours of Labour* series. Several other publications contain data on wages which is sometimes useful, although most of them are content to reproduce the Ministry of Labour's figures.

The present selection of industries has been determined by the availability of published data. Building, engineering, shipbuilding and agriculture are the industries with which Bowley principally deals, and are, with the addition of railways, the only ones for which long time series are possible.

Details of sources and of methods follow :

[1] ' The existence of a rational wage structure, with some measure of uniformity in industry wage scales, will facilitate national guidance in wage matters by permitting government recommendation or direction to be confined to broad questions concerning the levels of wages and changes in the level.' (R. A. Lester, in Lester and Shister, *Insights into Labour Issues*, New York, 1948, p. 225).

[2] This seems to be true of other countries also. In Australia, where ' there has been very little upward movement ' during the past thirty years from the 80 per cent level, methods of wage bargaining are suggested as the principal cause of stability at this level. (D. W. Oxnam, *The Relation of Unskilled to Skilled Wage Rates in Australia*, *Economic Record*, June 1950). In the U.S.A. there has been a narrowing : the average skill differential (based on earnings) stood at 49 per cent in 1907, 57 per cent in 1918–19, 56 per cent in 1931–32, 61 per cent in 1937–40, and 65 per cent in 1945–47. While the low level may be ascribed to the existence of cheap unskilled immigrant labour (and conversely the narrowing of the differential may to some extent reflect the restrictive immigration policies of the 1920's), it must be remembered that unskilled labour became much more strongly organised during the 1930's, and it seems significant that the differential narrowed more at this period than even during the second World War (*cf.* H. Ober, *Occupational Wage Differentials*, *Monthly Labor Review*, August 1948).

TABLES I TO V

Table I

A. *Building.* 1880–1900 : the differentials between labourers' and bricklayers' wage rates (Bowley, *Journal of the Royal Statistical Society*, 1900) were computed for 16 regions in England and Wales. Unweighted averages were taken of the regional differentials.[1] 1901–1913 : weekly wage rates of bricklayers and of labourers, using the summer hours of labour, were calculated for some 34 districts of Great Britain (figures from the *Abstracts of Labour Statistics*). Unweighted averages of the regional wage rates were taken and the skill differential calculated on this basis. 1914–1936 : the differentials were derived from the wage rates given in the *Abstracts.* These were averages of the recognised weekly rates in 39 large towns in Great Britain. The hourly rates are for December in each year (except those for 1914, which refer to July), and the weekly rates given are calculated by multiplying hourly rates by ' the average number of hours in a full week, taking summer and winter hours into account.' 1937–1949 : differentials were calculated from figures given in the Ministry of Works typescript *Wages, Earnings, and Negotiating Machinery in the Building Industry since* 1886. Weekly rates for December in each year were calculated from the standard Grade A hourly rates of craftsmen and labourers in England and Wales, assuming a 45-hour week.[2] 1950: the figure refers to October, and is based on Grade A rates given in *Time Rates of Wages.*

B. *Shipbuilding.* 1880–1904 : Bowley (*J.R.S.S.*, 1906) gives index numbers for engineering and shipbuilding trades' wage rates. Differentials were based on indices for shipwrights and labourers.[3] 1914–1936 : differentials were based on the wage rates for shipwrights and labourers given in the *Abstracts of Labour Statistics.* The rates are averages for 8 principal centres in the U.K., and refer to December in each year (except for 1914—July). 1937–1938: similar data were used from the *U.K. Statistical Abstract.* 1939–1945; differentials were interpolated with the aid of the tables of Changes in Wage Rates in the *Ministry of Labour Gazette.* 1946–1949 : the figures were derived from the *Time Rates of Wages* series. They represent the National Uniform Plain Time Rates on New Work (including War Bonus), and refer to August 1946, September 1947 and 1948, and October 1949. 1950 : the figure is based on the November wage-award (*Gazette*).

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[1] It will be noted that, in this early period, the national differential is calculated from the regional differentials, while in the later period it is derived from the averages of regional wage rates. It was felt that differing definitions of rates in the early period would create divergences which would distort the average wage rates, but that there was less likelihood of misrepresentation if the ratios of skilled to unskilled rates were taken, since for each region these are generally in terms of the same definition.

[2] The ' winter ' hours are usually 44, and the ' summer ' 44 or 46½ ; but a figure of 45 hours corresponds to the Ministry of Labour's practice.

[3] ' Labourer ' refers to both engineering and shipbuilding labourers. As Bowley points out, it is difficult at this early date to give separate rates for labourers in these industries. After 1914, the two categories of labourers are distinguished.

C. *Engineering.* The sources for engineering are the same as those for shipbuilding. The rates used were those for fitters and labourers. The *Abstracts of Labour Statistics*' figures are averages of recognised rates in 16 principal centres. The 1946–1949 rates are the modal values of recognised time rates in regional centres. Although there is no fully national rate, regional diversity is now fairly small.

D. *Railways.* The differentials are between engine drivers (on promotion) and goods porters, and refer to industrial areas. 1914–36 : figures were derived from the *Abstracts.* 1937–1938 : figures were taken from the *Railways (Staff) Returns.* 1939–1945 : differentials were interpolated with the aid of the *Gazette.* 1946–1949 : differentials were based on the *Time Rates of Wages* series. 1950 : the figure is based on a change in the lower grade rate in September (*Gazette*). 1886 and 1913 : the figures were derived from a table in Rowe's *Wages in Practice and in Theory*; for 1907, from the Board of Trade's *Earnings and Hours Enquiry* (figure refers to towns of over 100,000 inhabitants).

E. *Police.* 1886 : the figure is calculated from averages of rates paid to police sergeants and constables at the Wage Census of 1886. The remaining figures refer to police sergeants (on promotion) and constables (on recruitment) in Great Britain (outside London). The relevant rates of wages were taken from the Reports and Memoranda of the *Desborough, Higgins, and Oaksey Committees.* The 1939–1945 rates included war duty payments.

Table II

The sources of the miscellaneous differentials shown in Table II are the *Abstracts of Labour Statistics* for 1927 and 1936, and the *Time Rates of Wages* series for 1920, 1929 and 1950. The differentials are based on time rates for :

A. *Merchant Service* : Able Seamen and Ordinary Seamen (of 12 to 24 months' service).

B. *Printing* : hand compositors on book and jobbing work, and general assistants.

C. *Flour Milling* : first rollermen in grade I mills, and labourers.

D. *Baking* : fore or first hands and ' other adult men '.

E. *Railway Wagon Building* : wagon builders and repairers (grade I), and outstation repairers (grade III).

F. *Pen Making* : tool makers and ' other workers '.

G. *Vehicle Building* : body makers and labourers.

H. *Leather Currying and Tanning* : ' skilled ' and ' unskilled '.

I. *Drugs and Fine Chemicals* : process workers, and bottle washers and labourers.

Table III

1877–1897 : Bowley (*J.R.S.S.*, 1900). 1907–1936 : *Abstract of Labour Statistics.* 1946–1950 : *Time Rates of Wages* series.

Table IV

(i) *Earnings.* 1906 : Board of Trade's *Earnings and Hours Enquiry.* 1924–1950 : Ministry of Labour's enquiries (*Gazette*).

(ii) *Rates.* The building industry, as far as wage rates are concerned, comprises two relatively homogeneous categories—' craftsmen ' and ' labourers '; and bricklayers may be taken as representative of craftsmen. The average wage rate is composed of the rates for these two categories. The 1906 hourly rates were interpolated from the averages of regional hourly rates for bricklayers and labourers in 1905 and 1907, as given in the *Abstracts of Labour Statistics.* 1924–1949 : hourly rates for craftsmen and labourers in standard Grade A areas[1] in England and Wales at the times specified were taken from the Ministry of Works typescript mentioned above. 1950 : Grade A rates from *Gazette.* These rates were multiplied by the appropriate average summer or winter weekly hours worked. The resultant weekly rates were weighted in the ratio of craftsmen to labourers at the various dates, to give the average weekly rates.

Table V

1907 : Board of Trade *Earnings and Hours Enquiry.* Figures refer to all grades in each category in the U.K. Wage rates include recognised bonus payments. 1936 and 1938 : *Railways (Staff) Returns.* Figures refer to all areas of Great Britain, and to all grades in each category, in March of each year. 1939 and 1949 : *Report of Board of Conciliation Relating to Salaries, Wages, and Conditions of Service on the Railways,* 1949 (Appendix 8).

CHART

Differentials :

As for Table I.

Cost of Living Index :

1880–1913 : Bowley, *Wages and Income in the United Kingdom since 1860* ; Board of Trade, *British and Foreign Trade and Industrial Conditions* (Second Series, 1904). Bowley bases the index given in the Board of Trade publication on 1914, and completes it to that date. 1914–1947: Ministry of Labour Retail Price Index (1914=100). 1947–1950 : Ministry of Labour Interim Index of Retail Prices.

1950 : SKILL DIFFERENTIALS IN 34 INDUSTRIES

The time rates of wages used in the calculation of the differentials in 34 industries were derived from *Time Rates of Wages and Hours of Labour, 1st October* 1950. All industries were used, other than those already cited, for which the time rates for a skilled and an unskilled category were clearly given. Since there was no information on the numbers of workers employed in different occupations, the differentials themselves were weighted by the numbers of employed males at October 1950, in these industries (or in as closely comparable industries as possible). The resultant weighted mean differential was 80.6 per cent, which compares with an unweighted mean of 80.4 per cent. A weighted mean deviation from the weighted mean gave a spread of 3.5. The median value of the 34 items was 81.8 per cent. The upper quartile was 84.9 per cent, and the lower was 78.6 per cent, giving a spread measure in the semi-interquartile range of 3.1.

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[1] The Grade A rates were, in general, slightly above average. This is a factor of small and diminishing importance (as Table III indicates).

The industries were: china clay; building bricks; pottery; glass processing; cement; light castings; springs; metallic beds; lock, latch, and keys; metal finishing; road vehicle repair; brass moulding and founding; agricultural machinery; gold, silver, and electro-plate; pianos; ready-made bespoke tailoring; wholesale mantles; shirts, collars, and ties; gloves; hats, caps, and millinery; boot and shoe repairs; biscuits; home-grown timber; saw-milling; furniture; wood boxes; wallpaper; paper bags; envelopes; rubber (tyres); toys; electrical installation; gas supply; and electricity supply.[1]

WAGE RATES

Wage Rates of Skilled and Unskilled Workers in Four Industries, and of Agricultural Labourers (shillings)

Year	*Skilled*				*Unskilled*				
	Building	*Ship-bdg.*	*Eng.*	*Rly.*	*Building*	*Ship-bdg.*	*Eng.*	*Rly.*	*Agr. Lab.*
1880	33.5	31.3	29.4		21.8	18.4	18.0		14.3
1886	33.7	33.0	30.4	39.6	22.2	18.9	19.0	20.0	14.3
1893	35.8	34.7	32.3		24.3	19.2	18.9		14.7
1898	37.8	38.4	36.0		25.7	21.0	20.9		15.2
1902	40.4	38.7	36.1		26.5	20.8	21.3		16.0
1907	40.2	36.8	35.3	40.4	26.1			20.6	16.3
1914	40.6	41.3	38.9	40.5	27.0	22.8	22.8	22.0	18.0
1920	100.8	91.3	89.6	88.0	87.7	70.4	70.8	71.5	46.9
1923	69.0	48.9	55.0	72.0	51.6	38.4	40.1	49.0	28.0
1928	72.5	58.8	58.8	70.2	54.3	40.0	41.9	46.8	31.6
1933	65.4	60.0	59.1	69.4	49.2	41.0	42.1	42.8	30.5
1938	73.1	68.0	69.2	72.0	55.3	49.0	50.3	44.0	34.6
1946	112.5	104.0	102.0	113.5	90.0	85.0	86.0	85.0	80.0
1950	129.4	120.0	118.0	124.0	108.8	98.0	100.0	96.0	100.0
% change:									
1880–1914	+ 21	+ 32	+ 32		+ 24	+ 24	+ 27		+ 26
1914–1920	+148	+121	+130	+117	+223	+209	+211	+225	+163
1920–1923	— 31	— 46	— 39	— 18	— 41	— 45	— 43	— 31	— 40
1923–1938	+ 6	+ 39	+ 26	nil	+ 7	+ 28	+ 25	— 10	+ 24
1938–1950	+ 77	+ 76	+ 75	+ 72	+ 97	+100	+ 99	+118	+189

The sources for this table were:

A. *Building.* 1880–1898: Bowley (*J.R.S.S.*, 1900). Bricklayers' rates were averaged on 11 areas in 1880, 19 in 1886, 22 in 1893, and 20 in 1898.

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[1] A similar calculation for October 1949 gave: weighted mean, 80.5; weighted mean deviation, 3.7; semi-interquartile range, 3.5. Thus since 1949 the tendencies to a narrowing of differentials and to greater uniformity have continued.

Labourers' were averaged on 10 areas in 1880, 17 in 1886, and 19 in 1893 and 1898. 1902–1950 : sources are as for Table I.

B. *Shipbuilding*. 1880–1902 : Bowley (*J.R.S.S.*, 1905 and 1906). Shipwrights' rates were averaged on 5 areas in 1880, 8 in 1886, 7 in 1893, and 6 in 1898; labourers' were averaged on 4, 7, 5, and 4 principal areas respectively. The 1907 shipwrights' rate was taken from the *Abstract of Labour Statistics*. Other rates are as for Table I.

C. *Engineering*. 1880–1902 : Bowley (*J.R.S.S.*, 1905 and 1906). Fitters' rates were averaged on 6 areas in 1880, 18 in 1886, 10 in 1893, and 8 in 1898; labourers' on 6, 17, 8, and 4 areas respectively. The 1907 fitters' rate is from the *Abstract*. Other rates are as for Table I.

D. *Railways*. 1880–1950 : rates are as for Table I.

E. *Agriculture*. 1880–1914 : the average rate of wages of ordinary male labourers in England and Wales (including the value of certain allowances in kind) is given in the *Abstract of Labour Statistics* for July 1914. This rate was linked to the index of agricultural wage rates, also given in the *Abstract*, in order to give approximate rates for earlier years. The index in fact represents the movements of an unweighted average of the cash rates of wages of ordinary labourers in 156 farms in England and Wales, of cash rates plus extra earnings and allowances of married horsemen on 98 farms in Scotland, and of cash rates of ordinary labourers on 27 farms in Ireland. 1920–1933 : figures are from the *Abstracts*, on the same basis as the July 1914 figure. 1938 : figures are from the *U.K. Statistical Abstract*, on the same basis. 1946–1949 : figures are the rates given for all areas of England and Wales, in the *Time Rates of Wages* series. 1950 : Figure refers to November (*Gazette*).

Although all figures in this table prior to 1914 are speculative, they should show the general trend.

FAMILY EXPENDITURE IN 1949. PART I

1. INTRODUCTORY

In 1940, we started a series of inquiries into the household expenditure of working-class families; with this present survey—the eleventh, carried through in the autumn of 1949—the series will be concluded. It is fitting that on this occasion we should once more express our gratitude to all those whose generous co-operation made this work possible.

As in the preceding survey in the autumn of 1948, the total number of contributions to our sample was much smaller than had been the case in earlier years.[1] On the other hand, while all our earlier samples only covered family expenditure for a fortnight, the coverage of our last two surveys was extended to four weeks. The smallness of these last samples was inevitable; it reflects the long continuation of the series coupled with the fact that we had to rely throughout on the co-operation of housewives who could be offered only a nominal reward, and of helpers all of whom gave their assistance free. However, the small enthusiastic group of helpers and housewives that supported these last two surveys, willingly agreed to an extension of the sampling period, to four weeks, in order that the samples should attain the greatest possible precision.

In 1948, an account was kept by 65 families from 6 towns—Birmingham, Bolton, Liverpool, Sheffield, Southampton and Swindon. In 1949, we received from the same towns accounts from 64 families, 44 of which had also been represented in the sample for 1948. All the housewives submitted housekeeping books in which they had entered daily every single item paid for by them, thus covering their outlay on rent, gas, electricity, instalment payments, etc., as well as all cash purchases. Each of the families was visited several times by a helper who supervised the work and checked it by means of a questionnaire.

Our analysis of the sample for 1948 had yielded figures which suggested no fundamental differences between this small sample and the much larger ones in earlier years. The figures for 1949 appear to fit in equally well. As always in this series, the sample was obtained from working-class families that included at least one dependent child in the year when they supplied an account for the first time. None of the families catered for lodger on a profit basis, but many of them counted more than one earner. These subsidiary earners were usually either the housewife or grown-up sons or daughters, or, in rare instances, other relatives.

2. THE STRUCTURE OF THE SAMPLE

Table I gives the geographical distribution of the families that contributed to our samples in 1948 and 1949. The families are subdivided as hitherto into three main groups: unchanged families, changed families, and new families. The unchanged as well as the changed families kept accounts in both 1948 and 1949; but in the interval the changed families had undergone some alteration in their structures through birth, death, or for some other reason. Not all of the new families were complete newcomers to the survey; some of them had kept an account for us before, but had failed to do so in 1948. The figures for the different towns show the average structure of the families and their average outlay on food, rent, and fuel and lighting. The figures for the individual towns should be considered primarily as indicating the general type of families with which we are concerned; for the smallness of these sub-samples makes it clearly impossible to attempt a valid statistical analysis of family expendiure. It will, however, be noticed that all the standardized figures of outlay on food are grouped fairly closely around the weighted average, which suggests a fair degree of homogeneity in our sample, in this respect. This is of great importance, since in default of figures of total income for all the families we have to fall back on the figures of standardized food expenditure for assessing the relative standards of living.

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[1] With the exception of the sample taken in June 1941, which yielded only 63 completed accounts. (In 1940, we had collected samples twice, in spring and in autumn; but many housewives, as well as several of our helpers, had found this too much of a burden and had discontinued their co-operation). In 1942, the number of contributions rose again to 161, and the highest number—226—was attained in 1944.

TABLE I

Geographical Distribution of Families

	Total	Un-chgd.	Chgd.	New	Persons per Family	'Man' Value per Person	Food p. 'Man' per Week		Rent¹		Fuel & Lighting per Fam.	
	Number of Families								per Week			
1948							s.	d.	s.	d.	s.	d.
(1) Birmingham	15	11	3	1	4.9	0.78	16	0½	11	4¾	9	6¾
(2) Bolton ...	15	4	1	10	4.2	0.78	16	10	13	4½	9	6¾
(3) Liverpool ...	7	2	—	5	6.0	0.72	14	2½	12	7¼	8	1¾
(4) Sheffield ...	11	7	1	3	4.8	0.80	16	5¼	11	4	8	8
(5) South'tn. ...	11	7	3	1	4.4	0.84	16	5¾	19	2¼	10	9½
(6) Swindon ...	6	4	1	1	3.3	0.83	15	2½	10	3	9	11¾
6 Towns, 1948	65	35	9	21	4.6	0.79	15	8½	12	7²	9	6
1949							s.	d.	s.	d.	s.	d.
(1) Birmingham	12	9	2	1	4.8	0.81	16	10½	12	5¾	8	9¾
(2) Bolton ...	7	6	1	—	4.0	0.75	17	9½	9	4	12	2
(3) Liverpool ...	8	4	—	4	5.4	0.73	15	4¾	14	7¾	10	9¼
(4) Sheffield ...	16	7	1	8	4.9	0.80	15	6	12	4½	7	1¾
(5) Southptn.	15	6	3	6	4.3	0.85	16	8¾	19	2¾	11	10¼
(6) Swindon ...	6	5	—	1	3.7	0.80	18	11¼	18	0	7	10¼
6 Towns, 1949	64	37	7	20	4.6	0.80	16	6	13	5¼³	9	7½

[1] Excluding the following families living rent free or buying their houses: 1948, 19 out of 65 families (Bolton 7, Southampton 7, Swindon 5); 1949, 21 out of 64 families (Bolton 5, Southampton 11, Swindon 5).
[2] Average for 46 families. [3] Average for 43 families.

The figures of food expenditure in Table I are given per 'man' per week, together with the 'man' value per person. In order to obtain the weekly food expenditure per person, the figures of outlay would have to be multiplied by the respective 'man' values. The scale that served to calculate these 'man' values, is set out in Table II; it runs from 1.00, for a male person aged 15 years and over, to 0.33, for a child less than 3 years old. These values are intended to indicate approximately the relative cost of maintaining a person *within the family*. Thus, assuming that over a given period husband and wife spend 185s., a baby under 3 years old would require an additional income of 33s. if the family's standard of living were to remain unchanged, while with a boy and a girl both over 15 years old, this could be achieved only by an additional 185s. The figures for older children may seem to be unjustifiably high. They will, however, appear more reasonable when it is understood that they are applied primarily for measuring the relative cost of food. To introduce a second scale for measuring the relative cost of the non-food items would have been far too involved. Such a refinement, moreover, might have suggested a degree of statistical precision which could not be achieved on the basis of our small samples.

TABLE II

Household Expenditure Scale of 'Man' Values

Male, 15 years and over	1.00
Female, 15 years and over	0.85
Children, 10—14 years	0.70
„ 6—9 years	0.60
„ 3—5 years	0.50
„ under 3 years	0.33

The average distribution of persons in the different age and sex groups is shown in Table III, for the unchanged, the changed, and the new families, as well as for the whole sample in 1949. It will be noticed that the number of persons per changed family was the same in 1948 and 1949, but that there was a decline in the number of male persons aged 18 years and over and an increase in the number of young children, which is reflected in the decline in the 'man' value per person, from 0.76 in 1948 to 0.74 in 1949. When analysing the household accounts we shall merge this very small sub-sample of changed families with the group of new families, as it is too insignificant

TABLE III

Average Structure of Families

	Age Group (years)	Unchgd. Fams. (37) 1948	Unchgd. Fams. (37) 1949	Changed Fams. (7) 1948	Changed Fams. (7) 1949	New Fams. (20) 1949	All Fams. (64) 1949
Males	18 and over	1.19	1.27	1.71	1.57	1.15	1.27
Females	18 and over	1.16	1.27	1.00	1.14	1.15	1.22
Males	15—17	0.14	0.19	0.29	0.14	0.10	0.16
Females	15—17	0.24	0.24	0.43	0.29	0.20	0.23
Children	6—14	1.14	1.00	2.28	2.28	1.30	1.23
Children	under 6	0.43	0.33	1.00	1.29	0.40	0.45
Persons per Family		4.30	4.30	6.71	6.71	4.30	4.56
'Man' Value per Person		*0.80*	*0.82*	*0.76*	*0.74*	*0.79*	*0.80*

to be considered by itself; but it seemed worth while to bring out the important structural changes which rendered it inadvisable to add the group of the changed to that of the unchanged families.

3. Outlay on Food and Household Expenditure

The items which comprise a housewife's expenditure account differ considerably for different families, since the purchases made by a housewife depend largely on the distribution of the total income between the housewife and the earners of the family. Thus in one family the housewife may handle almost the whole income, leaving the earners only their pocket money, while in another family, she may be given a fixed allowance with which to pay for the family's food and for only a very few other items. On account of these discrepancies in the budgeting habits of different families, little information can be gleaned about the economic structure of a sample of families by an analysis based on figures of housekeeping money. The sole item for which the housewife tends to be fully responsible in all families, is food. If we consider the outlay on this item by the families of our samples for 1948 and 1949, we find that in both years about three-quarters of them had a food expenditure per ' man ' per week of between 12s. and 20s. (Table IV). This is the sort of range one might expect for families of the type which our sample claims to represent. In Table I we saw that the average expenditure on food of the sample for 1949 was higher by 9½d. per ' man ' per week than that of the sample for 1948; the figures in Table IV indicate that the upward shift was brought about mainly by a marked reduction in the number of families with a weekly expenditure below 12s., and a similarly marked increase in the number of families with an expenditure of at least 20s.

Table IV

Distribution of Food Expenditure per ' Man ' per Week

Food Expenditure per ' Man ' per Week	1948		1949	
	Families (65)	*Persons* (*300*)	Families (64)	*Persons* (*292*)
	%	%	%	%
Under 12s.	13.8	*19.3*	4.7	*8.9*
12s.—14s.	15.4	*18.0*	17.2	*23.6*
14s.—16s.	18.5	*18.3*	18.8	*15.8*
16s.—18s.	27.7	*24.3*	20.3	*21.2*
18s.—20s.	10.8	*9.0*	18.8	*16.1*
20s.—22s.	6.1	*5.0*	4.7	*3.4*
22s.—24s.	4.6	*3.3*	7.8	*5.5*
24s. and over	3.1	*2.7*	7.8	*5.5*
Total	100.0	*99.9*	100.1	*100.0*

The average expenditure of housekeeping money is given in Table V, sub-divided into outlay on food, housing, clothing, fuel and lighting, and miscellaneous items. The increase in the average ' man ' value of the unchanged families from 1948 to 1949 is reflected in the fact that although their

TABLE V

Distribution of Household Expenditure

	Per 'Man' per Week Unchanged Families (37) 1948 s. d.	 1949 s. d.	 All Families (64) 1949 s. d.
Food	16 5¾	17 2¾	16 6
Housing[1]	3 7¼	3 7	3 9¾
Clothing	3 7¼	3 6	3 5¾
Fuel and Lighting	2 8¾	2 7½	2 7¾
Miscellaneous	9 8¼	8 9½	8 11½
Total per 'Man' per Week	36 1¼	35 8¾	35 4¾
Total per Family per Week	123 6¾	126 2½	128 9

[1] Rent, rates, mortgage interest, and house purchase instalments.

household expenditure per family was somewhat higher in 1949 than in 1948, their household expenditure per 'man' showed a slight decline over this period. Further, the slightly larger size per family of the total sample as compared with the sub-sample of the unchanged families, is reflected in the fact that while the outlay per 'man' of all the families was about 1 per cent below that of the unchanged families in 1949, their outlay per family was about 2 per cent higher than that of the sub-sample.

4. INCOME AND HOUSEHOLD EXPENDITURE

Only 41 of the 64 housewives who kept an account in 1949, stated their family income; of the remaining 23, several knew how much the husband was earning but were ignorant of the actual income of the subsidiary earners. We have always found in the course of these inquiries that the families that state their income have on the average considerably fewer earners than those that reveal only their housekeeping money. This fact stands out again in the present survey.

In Tables VI and VII the families are divided into those that stated their income (Group I) and those that accounted only for their household expenditure (Group H). The figures of income in Table VI refer to *net* income, by which we understand all the family income derived from earnings, family allowances, and pensions, *minus* all deductions at work for taxes, compulsory insurances, pension schemes, and trade union contributions. Whenever we are dealing with income we shall print the word '*unchanged*' in *italics*, in order to indicate that in this context the term has a more limited meaning than elsewhere in this paper, since with reference to income we can treat as *unchanged* only those families that stated their income both in 1948 and 1949. Three of the unchanged families revealed their incomes for the first time in 1949, while 12 of them showed only their household expenditure.

The expenditure of the 22 *unchanged* families in Group I was remarkably similar in 1948 and 1949, especially if we standardize the figures per 'man,' as has been done in the upper part of Table VI. The average 'man' value of these families had however gone up by nearly 5 per cent, and a somewhat

Table VI

Expenditure of Income of 41 Families (Group I)

	22 *Unchanged* Families		All Families in Group *I* (41)
	1948	1949	1949
	s. d.	s. d.	s. d.
Per ' Man ' per Week			
Food	16 9½	16 9¼	17 2¼
Housing	3 11	3 11	4 6½
Clothing	3 7½	3 10¼	4 4
Fuel and Lighting	2 6	2 10	3 0¾
Miscellaneous	11 3¾	10 4¼	11 5¼
Total Household Expenditure ...	38 1¾	37 8¾	40 6¾
Regular Savings[1]	1 6¼	9¼	7½
Unspecified	10 8½	11 7¾	13 10¼
Total *Net* Income	50 4½	50 1¾	55 0½
Per Family per Week			
Total *Net* Income	164 0¾	171 6½	182 7¼
Housing	12 9¼	13 4¼	15 0¾
Fuel and Lighting	8 1¾	9 8¼	10 1½
Total Household Expenditure ...	124 2¼	129 0¾	134 6¼

Relative Expenditure of Income

	: 22 *Unchanged* Families				All Families in Group *I* (41)	
	1948		1949		1949	
Food	44.0	33.3	44.5	33.5	42.4	31.2
Housing	10.3	7.8	10.4	7.8	11.2	8.2
Clothing	9.5	7.2	10.2	7.7	10.7	7.9
Fuel and Lighting	6.6	4.9	7.5	5.6	7.5	5.6
Miscellaneous	29.6	22.5	27.4	20.6	28.2	20.8
Total Household Expenditure	100.0	75.7	100.0	75.2	100.0	73.7
Regular Savings[1]		3.0		1.5		1.1
Unspecified		21.3		23.3		25.2
Total *Net* Income		100.0		100.0		100.0

[1] Out of housekeeping money ; mainly in savings groups and by children at school.

similar rise is shown in their figures of both household expenditure and income, if these are calculated per family.

The first 5 groups in Tables VI and VII are identical with those in Table V. The figures of savings refer to savings made out of housekeeping money, usually by the children at school or through street savings groups. The ' unspecified ' group in Table VI represents simply the difference between the total outlay shown in the household accounts and the total income. For all the families in Group I it amounted to slightly more than a quarter of the total income, or to about 46s. per family per week. No statements were available as to what happened to this margin, but it undoubtedly included some savings made by earners.

The total household expenditure of the families in Group H was much lower than that of the families in Group I. There is, however, no indication that the families in Group H were on the average poorer than those in Group I. It is true that the families in Group I were smaller and contained fewer dependent children per family, than those in Group H (Tables VIII and IX). However, the 23 families in Group H had approximately as many male earners aged 18 years and over per dependent child as the families in Group I. It is

TABLE VII

Expenditure of Housekeeping Money of 23 Families (Group H)

	12 Unchanged Families		All Families in Group *H* (23)
	1948	1949	1949
	s. d.	s. d.	s. d.
Per 'Man' per Week			
Food	15 9¾	17 8½	15 6¾
Housing	3 0½	3 0¼	2 9¼
Clothing	3 4¾	2 5½	2 3¼
Fuel and Lighting	2 11¼	2 2¾	2 0¾
Miscellaneous	6 7¾	5 8½	5 5¾
Total Household Expenditure	31 10	31 1½	28 1¾
Regular Savings[1]	5¼	2	1¾
Per Family per Week			
Housing	11 6¼	11 6½	11 7¾
Fuel and Lighting	11 1½	8 5¾	8 8½
Total Household Expenditure	120 8¼	118 9½	118 6

Relative Expenditure of Housekeeping Money

	12 Unchanged Families		All Families in Group *H* (23)
	1948	1949	1949
Food	49.7	56.9	55.3
Housing	9.6	9.7	9.8
Clothing	10.6	7.9	8.0
Fuel and Lighting	9.2	7.1	7.4
Miscellaneous	20.9	18.4	19.5
Total Household Expenditure	100.0	100.0	100.0

[1] Out of housekeeping money; mainly in savings groups and by children at school.

TABLE VIII

Average Structure of Families Stating Income (Group I)

	22 *Unchanged* Families		All Families in Group *I* (41)
	1948	1949	1949
Earners, 18 and over:			
Males	1.09	1.14	1.17
Females[1]	0.09	0.09	0.20
Earners, 16—18:			
Males	0.05	0.09	0.05
Females	0.05	0.05	0.02
Earners, under 16	—	0.05	0.05
Non-earning Adults	0.95	0.95	0.92
Dependent Children	2.00	1.86	1.76
Persons per Family	4.23	4.23	4.17
'Man' Value per Person	*0.77*	*0.81*	*0.80*

[1] A housewife working part time is counted as half an earner.

TABLE IX

Average Structure of Families Stating Household Expenditure Only (*Group H*)

	12 Unchanged Families		All Families in Group *H* (23)
	1948	1949	1949
Earners, 18 and over :			
Males	1.33	1.42	1.39
Females[1]	0.38	0.66	0.41
Earners, 16—18 :			
Males	0.08	—	0.09
Females	0.25	0.25	0.17
Earners, under 16	0.08	0.08	0.09
Non-earning Adults	0.96	0.92	0.94
Dependent Children	1.42	1.17	2.17
Persons per Family	4.50	4.50	5.26
' Man ' Value per Person ...	*0.84*	*0.85*	*0.80*

[1] A housewife working part time si counted as half an earner.

this ratio of adult male earners to dependent children which—*ceteris paribus*—may be taken to measure a family's economic position. If, however, we prefer to compare the numbers of all the earners with those of all the dependents in the two Groups, the families in Group H appear in an even more favourable light, as for each dependent person they counted 0.69 earner, as compared with 0.55 earner per dependent person in Group I. The most likely explanation for the relatively lower figures of outlay in Group H is that more supplementary purchases were made directly by the earner in this group of families than by those in Group I. In that case, the lower figures of expenditure for Group H as compared with those for Group I, may be taken as an indication of sociological rather than of economic differences.

5. HOUSING

In Table I we have shown figures of average outlay on rent while in other Tables we have given figures of outlay on housing. The figures for rent also include rates, and all the averages are calculated with reference only to those families that lived in rented accommodation. Figures of outlay on housing always represent the average for the whole group, or sub-group, of families that is being considered; they include, besides rent and rates, all payments on mortgages.

In Table X we compare the average figures of outlay on rented accommodation with those on accommodation owned or being bought. Of the 64 families that kept an account in 1949, only 63 stated their outlay on housing. In one of the unchanged families the husband paid the rates and possibly also paid for house purchase, but neither in 1948 nor in 1949 could the housewife give an indication of the amounts thus spent. The average weekly rent paid by the 23 unchanged families was 13s. 5½d. in 1948 and 13s. 8½d. in 1949 ; it thus rose by approximately 1½ per cent. According to the Ministry of Labour Gazette, some local authorities

TABLE X

Weekly Cost of Housing

Group of Families		House Rented No. of Fams.	House Rented Outlay p. Family	House Owned or Buying No. of Fams.	House Owned or Buying Outlay p. Family	All Housing No. of Fams.	All Housing Outlay p. Family
			s. d.		s. d.		s. d.
Unchanged ...	1948	23	13 5½	13[1]	11 2¾	36[1]	12 8½
	1949	23	13 8½	13[1]	11 10¾	36[1]	13 0¼
All	1949	43	13 5¼	20[1]	15 4¼	63[1]	14 0¾

[1] In one unchanged family the husband was paying for house purchase and rates, but the wife did not know how much it was.

increased and some decreased their rates during this period; the net result of these changes is assessed in the Ministry of Labour cost of living index as slightly less than 1 per cent, which fits in quite well with our figures. The outlay by the unchanged families on houses owned or being bought went up from 1948 to 1949 by nearly 6 per cent, from 11s. 2¾d. to 11s. 10¾d. From the data at our disposal it is, however, not possible to say whether the whole of this rise was due to increases in rates or whether it could partly be accounted for by changes in mortgage payments.

On the whole, the cost of housing of the individual families of our sample was not high. None of the families that rented their accommodation paid more than 25s. a week, while 6 of the families paid less than 10s. (Table XI). Nearly two-thirds of the 43 families of our 1949 sample that lived in rented accommodation, paid between 10s. and 15s. per week. Of the 20 families that owned or were purchasing their houses, three made weekly payments of 30s. and over, one of them paying as much as £3 a week. These high figures of outlay on house purchase however were accompanied by figures of outlay on food well above the average, and must therefore be taken as an indication that in all three instances the family income was high. Only one of these three families revealed their income. This family consisted of four persons, both the children being 3 years of age, and the net income—as defined above—amounted to 165s. per week, out of which the family paid

TABLE XI

Food Expenditure and Housing

Weekly Food Expenditure per 'Man'	Numbers of Families with a Weekly Outlay on Housing of									
	under 10s.		10s.—15s.		15s. 6d.—20s.		20s. 6d. & over		Total	
	Rented	*Owned*	Rented	*Owned*	Rented	*Owned*	Rented	*Owned*	Rented	*Owned*
under 12s.	—	—	2	—	1	—	—	—	3	—
12s. +	—	—	7	—	2	—	2	—	11	—
14s. +	1	—	5	—	—	*3*	2	—	8	*3*
16s. +	3	*3*	4	*3*	—	—	—	—	7	*6*
18s. +	—	*1*	6	—	1	*2*	—	*2*	7	*5*
20s. +	—	—	2	*1*	—	—	—	—	2	*1*
22s. +	1	*2*	—	*1*	1	—	—	—	2	*3*
24s. and over	1	*1*	1	—	1	—	—	*1*	3	*2*
Total	6	*7*	27	*5*	6	*5*	4	*3*	43	*20*

30s. in rates and mortgage charges. Buying a house is, of course, at least partly a form of saving.

6. Clothing

The outlay on clothing is recorded in the household accounts of our sample only in so far as it was met by the housewife out of current income. This, obviously, covers in many instances only a fraction of the actual expenditure on clothing, not only because the larger purchases are frequently made out of savings, but also because often much of the expenditure is met by the earners direct. The most frequently occurring item in the household accounts were payments into clothing clubs, which, while sometimes a form of saving for future purchases, usually appeared to be simply instalments on hire purchases. Of the 64 families of our sample, 35 recorded payments into clothing clubs out of housekeeping money. Each of these 35 families spent on this item approximately 7s. per week. The average weekly household expenditure of all the 64 families amounted to 12s. 7¾d., of which 3s. 10d. represented payments into clothing clubs and 8s. 9¼d. cash purchases. These cash purchases include the expenditure on mending materials and on shoe repairs.

7. Fuel and Lighting

The average distribution per family per week of the outlay on the various forms of fuel and lighting, is outlined in Table XII. The figures of total outlay in 1948 and 1949 are remarkably similar, even for the total samples, which do not cover the same families in both years. The outlay on gas and electricity was obtained directly from the household accounts in all cases where the families had slot meters. In the cases of all the other families the bills for the last quarter were inspected and the average weekly cost was calculated from these. These bills usually showed the amounts paid for July–September, and therefore probably somewhat underestimated the cost of gas and electricity during the actual period of our survey. Since, however, this method was followed in both years it does not affect the comparability of our figures for 1948 and 1949. The Ministry of Labour index for the period August–November, 1949, as compared with the same period in 1948, showed a rise in the cost of fuel and lighting by about 2 per cent, resulting mainly from rises in the prices of coal and gas.

Table XII

Outlay on Fuel and Lighting

	Per Family per Week			
	Unchanged Families (37)		All Families	
	1948	1949	(65) 1948	(64) 1949
	s. d.	s. d.	s. d.	s. d.
Coal	4 3¼	4 4	4 2½	4 3¼
Gas	2 11½	2 10¾	3 3	2 8¾
Electricity	1 8¾	1 8¾	1 8	2 0½
Other	4¾	4	4½	7
Total	9 4¼	9 3½	9 6	9 7½

8. Miscellaneous Items

The group of ' miscellaneous ' items covers a very great variety of outlay. It includes the purchase of all kinds of household goods, from furniture and bedding to soap and scrubbing brushes; of garden implements, plants and seeds; of cigarettes, soft and strong drinks, toilet requisites, books and newspapers; as well as payments for amusements, education, and insurance—in fact, the purchase of anything that could not be classed under our other main headings. The only condition for the outlay on these items to be included at all was that it came out of current income. For an item bought on instalments we considered only the amounts paid during the four-weekly period covered by the survey, and we completely omitted the outlay on anything that was paid for out of savings.[1] When the housewife is the main dispenser of the family income her outlay on the group of miscellaneous items is usually fairly substantial and, on the average, much larger than when she receives only a housekeeping allowance. This has already been brought out very strikingly in the figures of Tables VI and VII. In Table XIII we have again subdivided the families into those that stated their income and those that stated only their housekeeping money. The outlay of these two groups of families is shown on

Table XIII

Expenditure on Certain Miscellaneous Items out of Housekeeping Money

	Per Family per Week					
	Income Stated			Housekeeping Money Only		
	Group *I*			Group *H*		
	22 *Unchanged* Family		All Fams. (41)	12 *Unchanged* Fams.		All Fams. (23)
	1948	1949	1949	1948	1949	1949
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Drink[2]	10½	1 5¼	1 3¼	1 8	9	6½
Cigarettes	8 11½	7 1¼	5 10¾	2 8¾	1 1	1 8¾
Newspapers ...	1 10¾	2 3¾	2 2	1 10½	1 11	1 11½
Amusements... ...	5 1¾	4 9¼	4 6½	3 9¼	2 8	2 4¼
Insurances[3]	4 2	4 1¾	4 8	4 0½	3 1¾	3 4½
Total	21 0½	19 9¼	18 6½	14 1	9 6¾	9 11½
	Numbers of Families Actually Buying					
Drink[2]	11	15	27	7	7	12
Cigarettes	13	15	28	5	4	9
Newspapers ...	21	20	39	11	11	22
Amusements... ...	20	19	35	10	5	13
Insurances[3]	22	21	37	12	11	22
	Average Weekly Outlay per Family Buying					
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Drink[2]	1 8¾	2 1½	1 11¼	2 10¼	1 4	1 0½
Cigarettes	15 2	10 4¾	8 7¾	6 6¾	3 3	4 5
Newspapers ...	1 11¾	2 6½	2 3¼	2 0½	2 1	2 0½
Amusements... ...	5 8	5 6¼	5 3¾	4 6¼	6 4½	4 1¾
Insurances[3]	4 2	4 4¼	5 2	4 0½	3 5¼	3 6½

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[1] In those instances where part of the payment was made out of current income and part out of savings, only the former has been included in our figures.

[2] Mainly soft drinks, bought by the housewife. [3] Excluding compulsory insurances.

5 miscellaneous items that occurred fairly frequently in the accounts of our sample, *viz.*, drink, cigarettes, newspapers, amusements, and voluntary insurances. Here again we find that the outlay of the housewives in Group H amounted to only about half that of the housewives in Group I, the differences being most marked with respect to cigarettes and amusements. The amounts set down by the housewives for drinks were generally small and mostly referred to purchases of fruit squashes and other soft drinks.

The lower part of Table XIII shows how many housewives actually registered an outlay on any of these five items, and further gives their average weekly expenditure on them. It will be seen that newspapers and insurances were paid for out of housekeeping money by nearly all the housewives, but even here the actual average expenditure per family was probably higher than is indicated by our figures, in particular that on newspapers, since many earners are in the habit of buying an evening paper from street vendors. Of the 41 housewives in Group I, the 28 that paid for cigarettes had a weekly average outlay of 8s. 7¾d. Most of the cigarettes were apparently bought for the earners, but in several families the non-earning housewife was a fairly heavy smoker. None of the housewives recorded an outlay on pipe tobacco. The actual average outlay of the 28 families on smoking amounted to more than the 8s. 7¾d. shown by us, for 10 housewives, each of whom only spent a few shillings on cigarettes, stated that the earners of their families were paying for their smoking out of the pocket money retained by them.

In Table XIV, the items enumerated in Table XIII are summarized for the sake of briefness as ' personal ' expenditure. They are shown together with the group of ' various ' items many of which, too, are purchased for the individual members and not for the household as a whole (*e.g.* chemists' goods, presents, or music and dancing lessons). Besides the figures for these groups we are giving figures of average outlay on household requirements, sub-divided into outlay on household repairs, instalments, and cash purchases.

TABLE XIV

Outlay on Miscellaneous Items

	Per Family per Week		
	Unchanged Families (37)		All Families (64)
	1948	1949	1949
	s. d.	s. d.	s. d.
Household Repairs	0¾	1 6½	2 0¼
Instalments	5½	1 6	1 3
Other Household Items	4 9¼	3 2¼	3 4¼
Total Household	5 3½	6 2¾	6 7½
Personal[1]	19 0	16 1½	15 5½
Various	8 11	8 8¾	10 6¼
Total Other	27 11	24 10¼	25 11¼
Total Miscellaneous	33 2½	31 1	32 6¾

[1] Drink, tobacco, newspapers, insurances, amusements.

The outlay on repairs consisted mainly in payments for wallpaper, paint, and paint brushes, while that on instalments covered the hire-purchase of furniture and bedding. The group of all other household items includes, besides all cash purchases of furniture, bedding, hardware, etc., also the outlay on cleaning materials, laundry, and dry cleaning of furnishings. Compared with the figures of expenditure on ' personal ' and ' various ' items, the average outlay on the combined group of household items was remarkably small; yet the expenditure patterns of the 37 unchanged families in 1948 and 1949 are sufficiently similar to suggest that the picture obtained by us is an approximately correct one.

9. Conclusion

The expenditure on food of the families of our sample will be considered in some detail in a second paper. We can, however, conveniently summarize at this point the general findings of our survey. The families that supplied the budgets consisted on the average of between 4 and 5 persons, with a proportion of earners to non-earning adults and dependent children of about 2 : 1 : 2. Our analysis indicates that the changes from 1948 to 1949 in their income as well as in their expenditure were, on the whole, small. Indeed, for those families that stated their full income as well as their household expenditure in both years, the outlay per ' man ' on the main expenditure groups was almost identical during the periods of the two successive surveys, while their outlay per family increased by about 4 per cent. For the same periods—August to November, 1948 and 1949—the Ministry of Labour cost of living index showed a rise of slightly over 3 per cent. The net income of those families that revealed it both in 1948 and 1949, rose by about 7s. 6d. per week, from about 164s. to 171s. 6d. Some such rise was to be expected in view of the fact that not only had these families 0.14 earners per family more in 1949 than in 1948, but they also comprised, in 1948, 0.28 subsidiary earners per family, most of whom were juveniles, whose wages tend to be stepped up annually as a matter of course.

The figures of income and of outlay obtained from our surveys in 1948 and 1949 suggest that at the then prevailing prices, a working-class family of the type represented by our sample, spent on the average about a third of their net income on food, a twelfth on housing, and an eighteenth on fuel and lighting, while slightly more than half of the income covered the outlay on clothing, household requirements, miscellaneous items, and the family savings.

T. Schulz.